

REMARKS

Claims 55-70 and 84-96 are all the claims pending in the application. Claims 84-86 are added to further define the invention. Claims 55-70 stand rejected on prior art grounds. Applicants respectfully traverse these rejections based on the following discussion.

I. The Prior Art Rejections

Claims 55-69 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Steiner (US Patent No. 4,291,404) in view of Miller et al. (US Patent No. 6,452,411) hereinafter Miller. Claim 70 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Steiner in view of Miller as applied to claim 63 and further in view of Roy et al (US Patent No. 6,499,121) hereinafter Roy. Applicants respectfully traverse these rejections based on the following discussion.

A. The Rejection Based on Steiner in view of Miller

As shown in Applicants' Figure 1, the claimed invention comprises a test box 10 in which a plurality of test boards 11 are mounted. Applicants' Figure 3 illustrates one of the test boards that includes a number of sockets adapted to hold integrated circuit chips. The Office Action proposes that Figure 1 of Steiner discloses a test box and that Figure 2 of Steiner discloses a test board. However, Applicants respectfully submit that Steiner only discloses a battery powered single chip test board and does not disclose any form of an in-transit test box for holding test boards.

More specifically, column 3, lines 11-24 of Steiner explain that Figure 1 shows a device for testing a single chip and column 4, lines 37-42 explain that Figure 2 of Steiner illustrates the same device in a schematic format. Therefore, Applicants submit that Figures 1 and 2 do not illustrate a test box and test boards as proposed in the Office Action, but instead only illustrate a single chip test board. In Figure 1 of Steiner, openings 10 are holes for receiving a dual in-line package (DIP), buttons 11-13 our user

operation buttons, and item 16 is a display. The same items are shown in Figure 2. Therefore, Applicants submit that it is clear that Figures 1 and 2 illustrate the same device and that Steiner does not teach any form of a test box that is designed to hold test boards as in the invention defined by independent claims 55, 63, and 84.

The Office Action admits that Steiner does not disclose that the test board can hold more than one integrated circuit chip; however, the Office Action makes reference to Miller as showing test boards that hold multiple chips. However, Applicants respectfully submit that modifying the device in Steiner to hold multiple chips would destroy the operational functionality of the device in Steiner. More specifically, column 2, lines 10-49 of Steiner explain that the primary purpose of the single-chip test device is to provide a miniaturized hand-held battery operated field testing device that minimizes the memory space required and that prolongs battery life. Having multiple sockets and the ability to test multiple chips would destroy this functionality by making the device excessively large and making the device high in power consumption.

More importantly, the device disclosed in Steiner was designed to be able to evaluate a single chip during a single test procedure while a non-functional product is being tested in the field (see column 2, lines 4-9). Therefore, if a service technician were to suspect that a certain integrated circuit chip were defective, he could remove the chip from the non-functional product in question and individually test the chip using the device disclosed in Steiner. There would be little or no advantage in providing the device shown in Figure 1 of Steiner with the ability to test multiple chips because the diagnostic methods performed by field technicians generally evaluate each component individually so as to sequentially eliminate the potential causes of a defective condition. Once again, providing multiple sockets would merely make the device larger and make the device consume more power, which are contrary to the goals stated in Steiner of providing a small, light weight, low power consumption device utilized for in-field testing by field technicians.

The device described in Miller is utilized during the manufacturing stage when many of the same devices are produced and where simultaneous testing of a identical devices increases testing efficiency. The device in Miller is provided with a continuous power supply and is not concerned with limiting the power consumption during testing.

In addition, the size of the device in Miller does not need to be limited because it is not portable. Because of these differences, one ordinarily skilled in the art would not have been motivated to use the teachings of Miller in combination with the teachings of Steiner. For example, column 2, lines 1-3 of Steiner explains that large testing devices used during manufacturing (such as that disclosed in Miller) are impractical for use in field maintenance work. Therefore, Steiner created a device that was intentionally different than the device in Miller. Modifying the device to be larger and less practical for field maintenance work destroys the primary function of the device in Steiner. Thus, one ordinarily skilled in the art would not have modified the device in Steiner as suggested in the Office Action.

Miller relates to non-portable manufacturing environment with unlimited power supply, while Steiner relates to an in-field testing unit that has limited power supply and is limited by size and weight constraints. Because of these differences, Applicants submit that it is improper to combine the teachings of Steiner with those of Miller because the references come from such divergent testing environments and because there is no motivation in either reference to make the combination proposed in the Office Action.

In addition, neither Miller nor Steiner describes testing circuitry that operates while in transit. Miller provides a fixed testing apparatus that is immovable and cannot be used in-transit. Steiner describes an in-field test device that is designed to be used by a field technician when repairing a non-operating product. There is no suggestion in Steiner that the device could test a chip while being transported. Therefore, Applicants respectfully submit that there is no teaching or suggestion of a device where the testing circuitry operates while in transit.

Thus, as shown above, many aspects of the invention defined by independent claims 55, 63, and 84 are not taught or suggested by the prior art references. No reference teaches "a transportable test box". The references are not properly combinable to make the single-chip testing device in Steiner capable of testing multiple devices. Therefore the references do not teach or suggest that "each of said test boards comprises: sockets." In addition, there is no teaching of performing the testing of the chips while in transit, or as defined by independent claims 55, 63, and 84, there is no teaching of any device "adapted to hold integrated circuit chips to be tested while being transported." Therefore,

Applicants respectfully submit that independent claims 55, 63, and 84 are patentable over the proposed combination of references. Further, dependent claims 56-62, 64-70, and 85-96 are similarly patentable not only by virtue of their dependency from a patentable independent claim but also by virtue of the additional features of the invention define. In view the forgoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

B. The Rejection Based on Steiner, Miller, and Roy

The Office Action makes reference to Roy for teaching comparing outputs of ASIC chips to identify defective chips. However, it is Applicants position that Roy is not properly combinable with Steiner for the same reasons that Miller was not properly combinable with Steiner.

More specifically, Roy is not directed to a portable device, nor is Roy directed to a device utilized for in-field testing. Roy presents a large device for testing multiple ASIC chips simultaneously given very little space and power restrictions. Combining Roy with Steiner would destroy the portability and low-power consumption functionality of the device in Steiner. Further, Steiner relates to in-field testing devices, while Roy relates to a testing device to be used during manufacturing. There is no motivation within any of the references for making the proposed combination.

Therefore, the teachings of Roy are not properly combinable with the teachings of Steiner. Thus, it is Applicants position that the references are not properly combinable to teach the features defined by dependent claim 70. Thus, it is Applicants position that dependent claims 70 is patentable and that this rejection should be removed. In view the forgoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

II. Formal Matters and Conclusion

In view of the foregoing, Applicants submit that claims 55-70 and 84-96, all the claims presently pending in the application, are patentably distinct from the prior art of

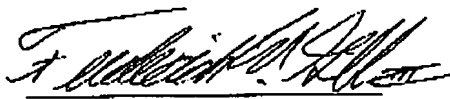
record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0456.

Respectfully submitted,

Dated: 9/17/03


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